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SUPRA PUBIC PROSTATECTOMY

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In 1886 Belfield of Chicago performed the first supra-pubic prostatectomy of which we have an authentic description. McGill, of Leeds, England, did the operation in 1889. Eugene Fuller of New York in 1894 published a very accurate account of the complete enucleation of the prostate by the supra-pubic route. A great many writers have given Freyer, of London, credit for the first description of the complete operation. According to Dr. W. W. Keen, this is an error as he states he assisted in the preparation of Fuller's paper which was presented in London some five years before Freyer's publication. Be that as it may, Dr. Freyer's description of the operation ranks even today as a classic in surgical literature. While great improvements have been made in the technique, the original descriptions of Fuller and Freyer are today very complete.

Cases requiring prostatectomy are in the greater majority those of benign hypertrophy, eighty percent as compared with twenty percent of carcinoma.

It is now well established that the vast majority of men who pass the fifth decade have more or less enlargement of the prostate. There are many factors which contribute to this. Among the first are previous inflammatory conditions of the gland frequently specific, but many times otherwise, constipation, overfeeding, alcoholism and sexual excesses all play their part in bringing about the hypertrophy of this gland which is the cause of much suffering and shortening of life if not promptly attended to. It is very generally accepted at this time that chronic inflammation is the greatest single factor in causing hypertrophy of the prostate. The old theory that the prostate was the analogue of the uterus and that its hypertrophy was similar to Fibroid formation in the female has long since been discarded as erroneous.

The initial changes in benign hypertrophy begins in the epithelium of the tubules and as we find the greatest amount of enlargement in the portions of the gland most plentifully supplied with tubules, that is the lateral lobes. We find the lateral and middle lobes very constantly enlarged while the anterior and posterior lobes are very infrequently affected in the benign cases. Of course, in carcinoma, the reverse is true as in this condition it is the posterior lobe most frequently the seat of the primary focus. The size of the gland has very little to do with the production of obstruction. As the obstruction is purely mechanical, a very slight enlargement of the middle lobe would cause retention. Much more surely than a mammoth hypertrophy of the lateral lobes.

Everyone has found on examination of these patients that the size of the gland has apparently nothing to do with the severity of the symptoms.

It is truly remarkable how long patients suffering with enlarged prostate will go along before seeking surgical relief. Practically all are forced to seek operation by an acute retention. Many have had a catheter life for one, two or three years, some even longer. There has been, of course, residual urine for a long period of time, with accompanying cystitis, back

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pressure and kidneys and enormous distention of bladder are rather constant phenomena.

A great number of these cases present themselves suffering with an acute retention, the bladder enormously distended, usually a great many futile attempts at catheterization have been made, great traumatism to the urethra has been done, frequently the patient has been subjected to a general anaesthetic, at times a trocar has been plunged into the bladder. The patient is exhausted from loss of sleep and suffering, and is at the moment a very uninviting surgical risk.

After a thorough cocainization of the urethra it is usually possible to insert a catheter, if not a soft rubber one with the aid of a carrier then a full curve metal will usually rather readily enter. Great care should be taken not to relieve the distention too rapidly. That is, if the catheter is kept in, it should be clamped or plugged so that in the beginning there is not continuous drainage. After two or three days of interrupted drainage, supplemented with warm boric acid irrigations, the drainage can be made continuous. The washings with boric solution should be continued. After this time we can proceed to make an examination of the patient.

The ordinary chemical and microscopic examinations of the urine having been made, we examine bimanually to ascertain the size, consistency and extent of the gland. This is followed by thorough cystoscopic examination, the ureters catheterized and the phenolsulphonthalein function test made. Blood urea content is determined and with these facts before us we are enabled to ascertain what should be our course with this particular patient.

Operative interference having been decided upon, we proceed in the following manner. A preliminary hypodermic of morphine is administered usually 1-6 gr. or if a very robust individual, 1-4 gr. The sterile soft rubber catheter is inserted into the bladder and the bladder irrigated with boric acid solution. The pubic region having been shaved, cleansed with benzine and painted with iodine in the usual manner, the skin and underlying structures are infiltrated with 1-2 of 1 percent novocain and an incision made down to the bladder wall. The point of reflection of the peritoneum is located. All bleeding points ligated and the bladder opened as high up as possible, care being taken to avoid traumatising the peritoneum. The bladder is explored by the finger and by vision and any stones present are removed. A large drainage tube with small soft rubber tube fastened to its side is introduced into the bladder. Two figure eight stitches through and through one on each side of tube, inverting the edges of the bladder are inserted and tied, thus completely closing the opening about the tube. The two angles of the wound are closed with through and through sutures a small drainage tube is placed in the lower angle down to the fascia. A glass connector is applied to drainage tube and another rubber tube joined on to carry off the urine to a bottle below the bed. The suturé material is silk-worm gut.

The bladder is irrigated twice a day with warm boric solution through small tube and flows out through supra-pubic drainage tube.

If the figure of eight sutures are carefully placed and the edges of bladder wound inserted as they are tied, there will be no leakage for ten or twelve days when the tube can safely be removed and irrigation continued if desirable through urethra.

We urge these patients to sit up a large part of the day as soon as the drainage tube is removed from the bladder. It is essential that patients of this class have extremely careful attention hygenically as they are very likely to develop excoriations on the cutaneous surfaces unless carefully protected from the urine. Dressings should be frequently changed and the bed kept dry.

We continue the boric acid irrigations for a number of days varying in each individual case, until the time arrives for the second stage. The average length of time in our series of cases to elapse between stages has been eleven days. We are guided by both the condition of the bladder and the general condition of the patient in determining the optimum time for the second stage.

Conditions being the best we can hope to attain in this particular case, we proceed to the second stage. A preliminary dose of morphine 1-6 gr. and atropine 1-120 is given. The field prepared in the usual manner. Gas and oxygen are administered. The silk worm gut stitches are removed and the bladder wound opened with the fingers. A self-retaining bladder retractor is inserted

and the interior of the bladder carefully inspected, irrigating through catheter in urethra if necessary. The outlines of the gland being determined visually, the retractor is removed. The index finger of the left hand is inserted into the rectum and the prostate lifted up as high as possible. The index finger of the right hand is inserted into the urethra from the bladder and the mucous membrane broken through at the anterior edge of the prostate, this is the floor of the prostatic urethra, the finger follows the line of cleavage forward and upward first on one side and then on the other, the apex of the gland is rapidly freed from the urethra and triangular ligament. The finger is next swept laterally and the gland freed from the base of the bladder. When we have freed the anterior and lateral portions we next insert finger between the prostate and rectum and turn the gland back into the bladder. The gland is then freed in the mid-line a half at a time and removed with forceps through the supra-pubic wound. The cavity is next explored to discover if all prostatic tissue is removed. Clots are carefully washed out and if there is much bleeding a soft rubber bag is drawn into the bladder, by attaching with a silk suture to the tip of a catheter that has been inserted through urethra. The catheter is pulled out drawing the soft rubber tube attached to bag with it. The bag is then inflated through a glass connector by lung power and drawn snugly down to the prostatic bed. The end of the tube is clamped and the bleeding readily controlled by pressure. A silk suture is tied onto end of bag before its introduction, is left long and protruding from supra-pubic wound to facilitate removal of the soft rubber bag the following day.

The wound is closed in the same manner as in the first stage, with the exception that the figure of eight stitches on each side of the large drainage tube are left quite long and tied in bow knots. The following day the sutures are untied, the tube removed, the soft rubber bag deflated and drawn out of the supra-pubic wound. The tube is re-inserted and the stitches tied inverting the edges of the bladder wound about the large drainage tube and thus preventing leakage.

The bladder is irrigated twice a day thru the supra-pubic tube with warm boric acid solution. The tube is left in place for four days when it is removed and a retention catheter placed in the bladder through the urethra. Irrigations are continued twice a day through the catheter. It is necessary to change this catheter every other day. Usually after twelve to fifteen days the catheter may be removed and the patient encouraged to attempt to void. Irrigations are continued once a day through the urethra. These patients begin voiding usually about the third week. The supra-pubic wound heals in from three to six weeks in our cases the average has been four weeks. As soon as the supra-pubic tube is removed the patient is put up in a chair each day and encouraged to spend a large part of the day time out of bed. Dressings must be frequently changed and the patient kept scrupulously clean.

We have in this paper discussed supra-pubic prostatectomy only as applied to the benign hypertrophy. The advantages of the operation are as follows:

1. The approach is bloodless or can be made so.

2. Enucleation is rapidly and readily performed.

3. The field can be enlarged if desired very quickly.

4. The gland is made very accessible without the use of tractors.

5. Incontinence is a very rare occurrence.

6. Venereal potency is not often interfered with.

7. Persistent fistulae are very rare if the bladder incision is made high up.

8. The use of local anaesthesia and two stage operations give a very low mortality.

9. Age is a very small factor in determining the operability of a patient.

PROSTATECTOMY IN THE OLD.

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This subject has been selected on account of the frequent statement, from the patient or some member of the family, following an examination in which a prostatectomy is necessary, not only for the comfort of the patient but for the lengthening of his life, that the patient is entirely too old for such an operation and it is useless to think of undertaking same. All urologists, no doubt,

have heard such a statement when the above advice has been given, but there is no foundation for it, as I hope to show. The method that I am following at the present time in treating these old patients and truly bad risks, is giving me excellent results and with almost 100 per cent recoveries.

Statistics collected by Deaver and Herman (Arch. of Surg., 1921, ii, 231) indicate that in prostatic operations the death rate steadily increases with the age; but in their own cases with a two-stage operation and with due pre-operative care, they have found that the mortality was higher between the 60th and 70th year than between the 70th and 80th. That age of itself has relatively little influence, is the expressed opinion of the best qualified authors who have recently written on or discussed this subject. But such patients cannot withstand operative shock with the same endurance as the relatively young. And as a general rule the convalescence of very aged patients after prostatectomy is stormy, as compared with the easy recovery of younger patients. Aged patients, therefore, require a very special course of pre-operative treatment and observation.

As a rule these patients have high blood pressure, associated with uremia, with a certain amount of sepsis, together with a varying amount of residual urine. Sometimes this residuum is very great on account of acute retention, such retention being most frequently due to the patient going beyond the usual time to void, or having been chilled through exposure. At times catherization attempted by the patient is ineffective; the catheter fails to reach the bladder, then a physician is called, who not using the proper sizes and shapes of catheters, causes much trauma from the unsuccessful attempts, so that there is not only retention, but bleeding from the post-urethra with swelling and corresponding shock. Fortunately, we usually see these cases before they have reached this extreme condition.

When a patient is in such a condition I slowly drain the bladder of its contents, usually with a proper assortment of catheters, or with a metal staff to be used in a soft rubber catheter. I am usually able to enter the bladder; when I have done, the catheter is retained by properly applied adhesive strips, and contents of the bladder slowly withdrawn, as follows:

Usually 10 ounces each two hours until the bladder has been emptied. Some urologists prefer withdrawing a certain amount of urine, say 12 ounces, followed by an injection of about four ounces of Boric acid solution. Personally, I do not like to mix the contents of the bladder as we are likely to stir up a nest of infection, which is perhaps lying dormant in the bladder, and disseminate the poison throughout the system.

I prefer having the patient drink water copiously, eight ounces every hour when awake; by so doing I am able to dilute the contents of the bladder in a physiological way.

After each withdrawal of urine, the catheter is plugged; thus, it is very easy every two hours to remove the plug and drain the amount mentioned. Occasionally, on account of over distension of the bladder with swelling and hemorrhage, it is utterly impossible to pass anything to the bladder, in such a case a trocar and canula, size 12 french, is thrust through the supra-pubic region into the bladder. This is very easily done by using a little novocaine at the point where entrance is to be made, and making a small slit with a scalpel through the cutaneous layer; the puncture is then easy. Through the canula a No. 10 rubber catheter is now passed to the bladder and the canula removed; the catheter is stitched to the bladder walls and the urine withdrawn in the same manner as through the urethra. A cystotomy at this time would be fatal in the majority of cases, and should be delayed until the patient is both clinically and pathologically free of uremic symptoms.

After a few days drainage through the supra-pubic catheter, the swelling in the post-urethra will have subsided enough to pass catheter through the urethra into the bladder, then we remove the tube from above and begin our routine system of building up the patient preparatory to the after treatments.

Preparation and preparedness are the essential factors in successful prostatectomies.

After the patient has entered hospital and the indwelling catheter properly retained so as to overcome absorption from bladder, we begin systematically to check up, and build up, and remove all foci or contributing causes that will be likely to weaken him.

Daily cathartics are administered, as adequate elimination is essential; distilled water, eight ounces every hour when pa-

tient is awake; diet is mostly low protein in character, with a glass of milk between meals and at bed time. Patient to be kept up most of the time in a chair as I like these old patients to think themselves fit, and therefore, they must be encouraged along this direction through the entire course of treatment.

We then have both the retention and excretory tests made; the phthalein is usually very inaccurate in these old prostatics on account of diverticulations, still we must use it; the blood chemistry consists of the N. P. N., U. N., Uric Acid and creatinin; this is much more accurate and dependable in this class of work than phthalein, but both should be used, and it is my custom to make these tests every third day, as well as the blood pressure.

During all this time we must closely observe the condition of the patient and whether or not he is uremic, as it is unsafe to operate during such conditions. By checking all of the tests as mentioned, together with the clinical symptoms, we can usually determine when the patient is free from such, and when safe for our first operation, the cystotomy.

Usually the indwelling catheter should remain in bladder and the supporting treatment given along lines mentioned, from one week to two or three weeks, or until patient is physically prepared. There should be no hurry about operating these patients as at this period of life, time is no special object, and they cannot stand being hurried through this ordeal; we must go slowly and be sure of the symptoms, both clinically and clinico-pathologically.

Sometimes the patient complains of the catheter, and that it is causing a great deal of discomfort; this can be overcome by a mild anodyne, and advice that they accustom themselves to the catheter, as it is essential, and that it can remain in the bladder for an indefinite time without any material discomfort.

When the condition is free from uremia, blood pressure standardized, and blood chemistry within the bounds of safety, then I do my first operation, cystotomy.

For a prostatectomy, I prefer to use gas and oxygen, as the anaesthetic, but occasionally on some very thin people I use local, novocain, anaesthesia. With the gas and oxygen, there is no shock, and it is much easier to do this operation by using this general anaesthetic.

The bladder is quickly opened, stones or any foreign bodies removed, a three-inch tube placed for drainage, and patient is returned to his room. We then begin our second stage or re-building our patient preparatory for the last operation, the removal of the prostate.

The supporting or preparatory treatment is carried out in the same manner as in the first operation, blood chemistry; phthalein tests, and blood pressure tests being made every third day, together with daily observations; and when the patient has reached the condition of safety, both clinically and pathologically, which may be all the way from ten days to three or four weeks, then he is ready for enucleation of the prostate gland.

Again gas and oxygen anaesthesia is given, the supra-pubic wound is stretched sufficiently to admit two fingers in the bladder, counter pressure is made in the rectum, and the prostate is removed through the supra-pubic incision, or opening.

For fear of hemorrhage which is one of the serious factors to be considered, I always pack the bed from which the prostate is removed with a strip of gauze; I prefer this to the Hagner bag. The end of the string is brought out by the side and against the one-half inch tubing and the bladder, and tissues closed snugly around same. Patient is then returned to his room, and the head of his bed elevated 12 inches; proctoclysis of four per cent solution of bicarb. of soda, one pint, is given every four hours for the first 24 hours, and then repeated if indications warrant.

There will be some pain as the result of the packing of the prostate, and a desire to urinate on the part of the patient; this will be relieved by giving 1-6 grain of morphine, repeated as necessary; the packing is left in for two days, and then removed, as well as the drainage tube. I think the earlier the drainage tube is removed the better, and the more quickly the patient recovers, it is my custom to remove both the gauze and tube on second day.

The patient is encouraged to sit up in bed on the fourth day, and in a chair on the sixth or seventh day, or just as soon as his clinical symptoms will permit.

The after-treatment is an important factor and the patient must be watched very

closely and supported according to his symptoms.

SUMMARY

The operation of removing the prostate from old men is practically safe, if the necessary precaution, preparations, and observations are made. Even in cases of high blood pressure, the prostate can be successfully removed by the step by step method.

Old age itself in no way contra-indicates operation, if the conditions of the patient be made fit.

STATUS LYMPHATICUS

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So far as we know, the function of the thymus gland is yet undetermined. It exerts no influence on growth or metamorphosis. Its removal does not seem to cause any deficiency in metabolism or in the development of other members of the endocrine series. Though Bander states its removal will cause death by emaciation in a dog within one year. In spite of this seemingly functionless character, the thymus is of clinical interest in connection with the condition known as status lymphaticus.

Early in the eighteenth century, Bichort noted the association of sudden death with the enlargement of the thymus gland. This enlargement is now generally conceded to be one of a series of hereditary anatomical imperfections occurring in the same body, characterized by recognizable peculiarities, namely: Hyperplasia of the lymphoid cells in various parts of the body, hypoplastic deficiencies in certain blood vessels, especially the Circle of Willis and the arteries emerging therefrom, also the aorta. In the male, the penis in about twelve per cent of the cases is small and the glands acorn shiped. In the female, the uterus is hypoplastic in a considerable number of cases. Gross, a number of years ago, recognized what he called the "Angelic" type of children, whom he described as being well nourished and beautifully proportioned, with velvety skin and silk like hair, shapely, arching limbs and narrow waist. This description of angelic children, as given by Gross, conforms to the description of children of the status lymphaticus type. We also have another type that are coarse featured, but the skin is fine and velvety and the limbs shapely.

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After puberty the clinical recognition of status lymphaticus is readily accomplished. In the male, the configuration of the body is of two types. In one there is a magnificent array of muscles moulded over a body of fine proportions. Some very striking examples of physical beauty are seen in subjects of status lymphaticus. In the other type we see the square shoulders and often times flabby muscles. In both types the skin is very delicate, facial and axilary hairs are very scantily developed, the thoracic hairs are few or absent, the distribution of those of the pubis simulate those of a female, being sharply defined transversely and do not tend to grow toward the umbilicus. The thighs arch gracefully in a lateral and anterior direction. In fact, the general appearance simulates that of a female.

Status lymphaticus is about six times more common in males than in females. It is more difficult to recognize in the female by inspection. Here we see an unusually delicate texture of the skin, the normally graceful outlines are very much accentuated, there are small fat pads in the axilaries with a scanty growth of hair on them. Other visible signs in both sexes are a hyperplasia of the faucial, lingual and pharyngeal tonsils. Though not accessible to view, there are also hyperplastic changes in the lymphoid tissues and in Peyer's patches and the solitary follicles of the intestines. The normal thymus weights about 15.5 grammes. The thymus in typical cases of status lymphaticus weights about 25 grammes. In the recessive type the lymphoid tissues show marked atrophic changes. The thymus may be partly or completely replaced by fat.

There seem to be no definite, pronounced, pathological findings in the thymus itself, except, some hyperplastic cortical follicles that are in many cases extreme and some large sinuses that contain a large number of cells of the lymphocitic type. We do not know if this has any connection with the lymphocitosis often encountered in these cases. However, we have a lymphocitosis in the circulation in status lymphaticus that may, or may not, be an index to the degree of lymphatic hyperplasia. The per cent of lymphocitosis should always be reckoned with when estimating operative risks. It has been pointed out by Schridde and others that in whom there is a lymphocitosis of 40 per cent or more the danger of sudden

death during an operation is very great.

There are two varieties of death in status lymphaticus. One is in the nature of an intoxication and the other is mechanical, following hemorrhage into the brain.

In the intoxication form in youths and adolescence a microscopical examination of the lymphoid tissues throughout the body invariably shows myriads of necrosed germinal follicles. It should be remembered that during this period of life the lymphoid tissues are being more abundantly developed than at any other period in life. This is also the period in life in which sudden death from status lymphaticus is most frequent. After puberty the germinal follicles may be replaced by a collection of spindle shaped cells which is probably an attempt by nature to replace the necrotic germinal follicles.

The cause of sudden death in the intoxication form is not fully understood. Some maintain, among them, Blumer, that there is a substance, which probably is a nucleoprotein released from the necrosed germinal follicles that is immediately responsible for the sudden unexpected death. Symmers thinks it is more probable that the cause of death is more of the nature of an anaphylactic reaction. Sensitization is expressed by the necrotic germinal follicles and chemically by the release of nucleoproteids, while not strictly foreign, are in a toxicological sense alien products. Previous to the expiration of the anaphylactic incubation period, the lymph nodes are again subjected to destructive substances which brings about still further disintegration of the germinal follicles, thus completing the anaphylactic cycle. This destructive substance may be introduced in the form of antitoxins, vaccins, or otherwise or as substances which have escaped destruction or modification by the lymphoid follicles in the intestinal tract or which have been manufactured in the process of shock.

He thinks that at a certain time the tissues are so tuned that sufficient quantity of specific protein reacts violently, even to the extent of causing sudden death. While at another moment this same quantity of specific proteins have no effect. Probably the number of acute necrotic lesions in the lymph nodes and the stage of anaphylactic incubation period has much to do with these apparently inexplainable differences in the indurability of an individual or in individuals having the same pathological state, that at one moment they are able to withstand and at another succumb to death.

In the recessive form death is due to a purely mechanical cause. There being a hypoplastic condition of the cerebral blood vessels, particularly of the arteries entering into the formation of the Circle of Willis. In about 40 per cent of all cases of status lymphaticus the cerebral vessels are in a hypoplastic condition. These cases are extremely important from a medicolegal standpoint. When a patient succumbs to sudden death from a trivial injury, that in a normal individual would be considered insignificant, an autopsy should always be made and the condition of the cerebral arteries noted. Symmers states that in the autopsy room of Bellevue Hospital where autopsies are made in medicolegal cases, at least a dozen cases are seen every year in which there is a cerebral hemorrhage, due to hypoplastic intracranial blood vessels. In subjects with hypoplastic blood vessels trivial causes may result in an intracranial hemorrhage, such as slight traumatism, physical excitement, intense strains or anything that will raise the arterial blood pressure.

Gross noted that his so-called "Angelic" type of children were more prone to contract infectious diseases and were more easily overcome by their toxicity than other children. This is also true in status lymphaticus.

Daut states that in his autopsies of children dying of diphtheria, over 25 per cent presented the anatomical changes of status lymphaticus. Elser states that in over 25 per cent of his autopsies held on cases dying of cerebro-spinal meningitis, the anatomical tissue changes found in status lymphaticus were present. Some observers have found them in as high as 60 per cent of their autopsies held on cases dying of cerebro-spinal meningitis. There are also a number of cases reported by different observers in which autopsies showed the characteristic tissue changes of status lymphaticus in deaths from typhoid and various other infectious diseases. The fatal termination usually occurred in a very short time. Much shorter than in the ordinary course of the disease.

Emerson had charge of one thousand patients suffering of attempted suicide, cocain, morphine, alcohol, and other habit-forming drugs, he noted that 22 per cent had the clinical characteristics of status

lymphaticus. Bartel and his co-laborer held autopsies on two hundred and thirty-two cases of suicide in which 80.5 per cent showed the tissue changes of status lymphaticus.

Caisson disease seems to be closely associated with status lymphaticus. The hypoplastic condition of the cerebral blood vessels is an element of danger in workers in compressed air, therefore, individuals with the clinical signs of status lymphaticus should not be permitted to work in caissons.

In status lymphaticus the vasomotor system is easily disturbed. There is a noteworthy emotional instability. During the recent war, while at the Remedial Hospital, at Camp Sherman, I had the opportunity to examine a large number of troops for classification. It was noticed that a large number of the so-called N. C. A. cases had the typical clinical signs of status lymphaticus.

To the average physician, the clinical signs are probably of more interest than the pathological findings. No doubt we can all recall cases in which sudden, unexpected death occurred to our great surprise, even before we had made a diagnosis or a few hours after we had assured the relatives that there was no danger and that the patient in all probability would soon recover. When we have a patient with the clinical signs of status lymphaticus we should always proceed very cautiously and explain to those concerned the possibility of a sudden fatal termination in death, due to anatomical defects over which we have absolutely no control. Thus, we may be relieved of a great deal of anxiety afterwards and maintain the high opinion of the family in our ability, that so often is shaken when these unfortunate deaths occur so unexpectedly.

URTICARIA

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The subject of my paper was selected for the reason that urticaria is at once the simplest and most transient of diseases and again the most persistent and troublesome of all dermatological manifestation with which we have to deal, in many cases taxing the resources of the most expect therapist and careful observer.

Read in the Section on Genito-Urinary Diseases, Dermatology and Radiology, May 9, 10, and 11, 1922, Oklahoma City, Oklahoma.

If I am successful in preventing the error, many times made, of conveying to a patient or his friends that they have just a simple case of hives which a dose of salts and a spoonful of bicarbonate of soda will cure, my little contribution to this program shall not have been in vain.

Urticaria is an inflammatory disease of the skin manifested by an eruption of whitish pink or red elevations on the skin or mucus membrane which, for want of a better name, we call wheals. These may vary in size from that of a pin head to one I saw last summer that was as large as a hen egg.

In its description various names are given as urticaria annularis, urticaria vasiculosis, urticaria bullbosa, urticaria tuberculosa, urticaria purpura and urticaria papulosa. These are, of course, various types and merely describe the external manifestation, descriptions, however, which should be kept in mind in the differential diagnosis.

There are two principal types of the disorder, the acute and the chronic; the acute is very evanescent, the wheal appearing suddenly on any part of the body with or without constitutional symptoms, as anorexia, malaise or headache.

The subjective symptoms are usually pronounced: intense itching, burning and stinging sensations sometimes make life miserable; occasionally the mucus membrane of the mouth, throat or larynx is involved; if the latter, serious disturbance of breathing may demand prompt action and probably our best remedy in this contingency is the hypodermic administration of adrenelin solution in ten or fifteen minimum doses to effect.

The transient or rapid appearance and disappearance of the lesions is possibly its most distinguished characteristic, together with the intense itching. Linear wheals can be produced by local irritation in most of the cases, a condition known as dermographism, demonstrating that the entire skin is involved in the pathology.

The acute variety usually terminates in three or four days. The chronic type, however, may persist for many years and elude the most searching investigations as to its etiology.

There is another form of urticaria sufficiently distinct to justify separate men-

tion, namely, that occurring in infants and childhood. It is persistent, having periods of quiescence and relapses, usually worse in the summer months and characterized chiefly by papules, pale or red in color. If examined in the early part of the night when they give the most distress, an engorged area around the papule will be observed closely resembling a wheal. The eruption may be widely disseminated, especially on the trunk, and because of its similarity has been described as Lichens urticatus. As in all dermatological lesions, one must ever keep in mind the changes in morphology due to secondary infections from scratching and irritating local applications; also, this particular type must be distinguished from scabies and prurigo.

As to the etiology, it is now generally agreed that the condition is due to some toxic substance introduced into or produced within the body in certain sensitized individuals. It is a rather common observation to see urticaria develop following the administration of foreign proteins as serums and antitoxins indicating an anaphylactic reaction.

Some individuals are predisposed to the extent that the condition is easily induced by the ingestion of certain foods as eggs, cheese, pork, shell fish of all sorts, strawberries, oatmeal, pickles and a variety of canned goods. Certain drugs as quinine, salicylates and antipyrine will in some cases bring about an attack. Emotional disturbance as fear, anger or shame may cause urticaria, due no doubt to interference with the function of intestinal digestion resulting in the production of toxins responsible for the disease.

We may have urticaria concurrent with malaria, prurigo dermatitis—herpetiformis, obstructive jaundice, syphilis and many other constitutional disturbances.

The pathology, so far as the local manifestation is concerned, has been thoroughly studied by Gilchrist and others. Until recently it was thought that urticaria was an angioneurosis in which the toxin was supposed to act through the nervous system. It is now, however, generally accepted that the toxins circulating in the blood or deposited locally, act directly on the vessel walls producing an acute inflammatory, oedematous swelling. There is a profuse emigration of polynuclear leucocytes and lymphocytes.

In the diagnosis few errors will be made if we keep in mind the ephemeral character and rapid evolution of the lesions together with the constant and severe itching and burning. From papular erythema it is readily differentiated by the absence of subjective symptoms and the characteristic large flat papule of the former as compared with the urticarial wheal. One may be confused occasionally with the lesions of erythema multiform. These are, however, more apt to be on the extensor surface of the forearm and neck, are more persistent and devoid of subjective symptoms.

The treatment of urticaria is usually quite simple and the first indication is to remove the cause if possible. Waugh's slogan, "clean out and keep clean," is particularly applicable to this disease. If the symptoms are persistent and the cause not apparent, one should make the skin test for the various protein reactions that may lead to the definite etiological factor. However, in my own experience this has never been very profitable, due possibly to the comparatively limited number of cases for observation. The local treatment is usually in the form of baths, lotions and powders. Two ounces each of sodium carbonate, sodium biborate and potassium bicarbonate in thirty gallons of water makes a very satisfactory alkaline bath. If an acid bath seems to be indicated, one half ounce of either hydrochloric or nitric acid to the same quantity of water will serve. A starchy solution will often be effective which is made as follows: Take a sufficient quantity of starch, which, when added to a pint of cold water and partly boiled, will have the consistency of thin mucilage, then add one dram of zinc oxide and two drams of glycerine before the boiling is completed. Cool, then apply and await the gratitude of an heretofore distressed patient. The usual calamine and zinc oxide lotion with one-half to one per cent of phenol or diluted hydrocyanic acid is always valuable. If a powder seems to be indicated, none better than the Anderson powder, consisting of camphorae pulv. one and one-half drams, zinci oxidi one half ounce, amyli pulv. one ounce. If a traumatic dermatitis supervenes as a result of scratching, an ointment of two per cent salicylic acid and one half to one per cent of menthol will prove of service. In the chronic cases wherein the etiology is obscure, the treatment is necessarily more or less empirical. I have found, in three cases, that four to ten minims of one to one

thousand adrenalin solution has given good results and as heretofore suggested, this remedy is particularly of service when the larynx is involved in which case it should be given hypodermically.

Considering the anaphylactic nature of the disorder, the individual may be desensatized by the administration of some foreign protein and probably typhoid bacterine is as good as any and should be given a trial in obstinate cases, using five hundred million killed bacteria injected subcutaneously twice weekly for a month or more. Sutton reports good results, in two cases that were persistent, following the administration of emetine hydrochloride one half grain hypodermically daily for a week or ten days.

In conclusion, search diligently for the etiological factor and the treatment then becomes a simple matter.

CO-OPERATION OF THE NURSE IN PREVENTION OF DISEASES IN INFANCY AND EARLY CHILDHOOD

DR. C. V. RICE,
Muskogee, Oklahoma.

Today, we hear a great deal about the importance of Preventive Medicine, especially that part dealing with infancy and early childhood. The co-operation of the nurse with the physician would help much in its progress as the nurse usually has the confidence of members of the families where she has been employed and she is often questioned regarding the children's health before the doctor is consulted. This fact is demonstrated every day in taking histories, when the mother will say: "The nurse told me so and so." Therefore, the members of this organization should keep posted on work that is being done along this line.

The first guard the infant receives for his growth and proper development is breast feeding. Every child born is entitled to the best start in life that is obtainable and in the majority of cases the mothers can nurse their offspring. The milk has great protective powers, containing anti-bodies which render the baby immunte to most infectious diseases. We find its aid in helping sick infants in hospitals where it is saved and given to those who need it most.

Read at the Fourteenth Annual Convention of the Oklahoma State Association of Graduate Nurses, Muskogee, Oklahoma, October 25, 26, 27, 1922.

An exception to breast-feeding is when the mother has some incurable disease, exposing the baby to the same condition or activating her own disease. Mild cases of typhoid in the mother, do not call for the removal of the infant from the breast, as there is not much danger of transmitting the infection through her milk to the baby.

The baby is never to be taken from the breast because it is not gaining nor because it has colic. The nurse can do much to relieve both of these conditions. The first is usually caused from insufficient secretion or from lacking enough of one or more milk constituents. As a rule, improvement is brought about by proper, wholesome diet for the mother and regular intervals of nursing with complete emptying of the breasts when the baby has finished. This is done by manual manipulation or finger milking and is carried out as follows: The breast is grasped by thumb and index finger about one centimeter back of the areola and a milking motion is carried out toward the nipple. This method is necessary to obtain results, as the milk ducts extend but a short distance back of the areola. Additional feeding must be resorted to until the milk is brought up to standard in quality and quantity. The baby nurses regularly after intervals of three or four hours and after each breast nursing is given as much artificial food as he will take. The amount will depend upon the nursing from the breast and the size and appetite of the infant. Milk analysis gives us no important information but we can tell much by the weight and disposition of the baby. The weight curve is an indicator of his welfare. If the baby has frequent, curdy, foamy stools, vomiting, or colic, but has a substantial weight curve, he should still use the breast. Alternating feeding with the breast and bottle is to be condemned as the babe will soon give up the breast and we do not have the natural stimuli for the breast frequently enough.

For the colic, much can be done by giving about an ounce of casic milk before each feeding, or one ounce of barley water predigested with Taka-Diastase. When artificial feeding is necessary, the nurse is often consulted and it is her duty to condemn all condensed or sterilized canned milk. If the supply of cow's milk in the locality is clean and fresh, she should recommend it and if it cannot be obtained, powdered milk can be used. S. M. A. would be preferred first and Dryco second. If the nurse is doing

social work and is not acquainted with either powdered milk it would be well for her to investigate.

Much can be done to aid the mothers in keeping the nipples clean and soft, preventing cracking and infection, which cause abscess and taking the child from the breast. The nurse can easily see how important it is to do all that she can to keep the babies to the breast, making stronger and better babies and reducing the death rate the first year of life. One-fourth of the civilized race die during the first year. Sixty per cent of these deaths are due to nutritional disturbances and the other forty per cent to improper feeding.

The causes of death each year after the first are different, so it would be well to take them up with the mortality at the various ages. Bowel conditions are still the cause of over one-fourth of deaths during the second year. This is due to the variety of food that the child is eating at this time, some of which should not be given and some that is not properly prepared. Next in importance are the respiratory diseases which are responsible for 26.4 per cent of the deaths during this year. The mortality could be greatly reduced by educating the mother in dressing her babes, in the proper ventilation of the home and sleeping room and in not taking the little ones to public places. Epidemic diseases account for 17.8 per cent of deaths during the second year. Tuberculosis takes on a more prominent position and T. B. meningitis forms over one-half of the total of T. B. mortality.

In the third year of life, the four epidemic diseases are responsible for more than one-fourth of the deaths with diphtheria in the lead. Respiratory conditions still cause many deaths; accidents and injuries now play an important part and typhoid makes its appearance with a death rate of one per cent.

During the fourth year there is a reduction in the death rate. The epidemic diseases are still in the lead and responsible for about one-third of the deaths, with diphtheria the chief offender, causing one-sixth of the deaths. T. B. meningitis is still the main form of that disease. Accidents are on an increase with burns the chief cause of deaths. Typhoid is on the increase with the death rate of about that of the third year.

When we pass to the fifth year we find the mortality rate due to the four infectious diseases, greatly on the decline, with the appearance of their sequelae, acute rheumatism and acute endocarditis, organic diseases of the heart, acute nephritis and Bright's Disease.

Heart disease occurs in one in every fifty of our population and the causes are: First, infectious diseases; second, intoxications; third, improper methods of living. The total death rate in this country from infectious diseases are as follows:

Diphtheria for all ages	12,442
Under five years	7442
Measles for all ages	10,442
Under five years	7034
Whooping cough for all ages	7837
Under five years	7454
Scarlet fever for all ages	3124
Under five years	1516
Typhoid for all ages	10,085
Under five years	620

What can the nurse do to aid in reducing the death rate due to these infectious diseases? In the families where she is nursing, she can talk to the members about the importance of strict quarantining. At the present time we have no preventive vaccine for measles and scarlet fever, and to reduce the prevalence of these diseases, the nurse should carefully watch and assist in educating the public in the real nature of disease transmission, in the prompt report to health authorities and in efficient isolation. For whooping cough we have a vaccine which is claimed by many to give very satisfactory results as a prophylaxis as well as a curative, and I feel that it should be used as the death rate from this disease under five years of age is equal to that of diphtheria. As for Typhoid, we all know what the anti-typhoid serum has done for adults, but in the pre-school age, this is the least important of the infectious diseases. The vaccination of children depends largely upon the local sanitary conditions and the presence of a typhoid epidemic. The child should be vaccinated for small-pox during infancy as the duration of immunity conferred by vaccination at this time is much longer and perhaps for life. In the prevention of diphtheria, we have two of the most efficient measures known at the present time to the medical profession. The Schick test determines liability to the disease and Toxin-Antitoxin gives a protection to those who are liable. Every pre-school child should be given

Toxin-Antitoxin, which would mean the extermination of this serious infection of young children.

The nurse and physician surely have the opportunity and responsibility of educating the public to obviate these infectious diseases which kill so many of our little children. Many of those who do not succumb are left with some organic disease which impairs them in later life for usefulness to themselves and the community in which they live. Let us put forth every effort that we can in their prevention and in the protection of our men and women of tomorrow.

DIPHTHERIA

CHAS. W. FISK, M. D.,
Kingfisher, Oklahoma.

About 1818 Bretonneau, a French physician, described a severe form of pharyngitis accompanied by a false membrane to which he gave the name diphtheria. It was many years before the name was generally accepted or the disease considered a distinct type. There is no mention of paralysis, although it must have been of frequent occurrence.

Membranous croup was not included except those cases in which there was an extension of the membrane to the trachea.

The treatment was directed toward the destruction of the false membrane by applications of concentrated hydrochloric acid, nitrate of silver twenty grains to the ounce and other corrosive agents. This was the general line of treatment when, in my childhood, this disease first came under my observation. As the treatment was then applied I wonder not at the terrifying destructiveness of the disease, but that so many were able to escape. As it was not generally believed to be contagious, there was no segregation of the sick and no quarantine measures of any kind.

In the beginning of my practice it was treated as an infection with sprays and local applications of germicides of all sorts and in all combinations. In addition to the general use of tonics and stimulants, we administered iodine, corrosive sublimate, carbolic acid and others with a purpose that in some mysterious way we might attack the offending germs from within. Some recovered but the mortality was high.

In the malignant cases we acknowledged our inability to stay the hand of the grim destroyer. Dr. Knox, of Rush, told us that he had treated thirty consecutive cases of diphtheria without a single death and that he was beginning to think that he had found a satisfactory treatment. He had just encountered the disease of the malignant type in a family of three children. The well ones were segregated immediately, but one of them had developed the disease. He said: "The first one attacked has died, the second, although not now in a serious condition, will die, and gentlemen, the third one will be stricken and if so it, too, will die. This, gentlemen, is diphtheria."

A few instances have come under my observation where every child of the family has perished in rapid succession.

We accepted the antitoxin treatment enthusiastically. It was strenuously opposed by some of the members of this association. Statistics seemed to show that there were more cases of paralysis since the introduction of the antitoxin treatment. This was discussed, asserted and denied at our meetings. The new treatment was held responsible for this increase. At length some "Heaven born genius" saw and explained what should have been obvious, if we have more recoveries we are very likely to have more paralysis.

We are told that figures do not lie, but they may lead to very erroneous conclusions. A man was arrested for stealing an ax. One witness testified that he had seen the defendant steal the ax. Three testified that they had not seen him steal the ax. The justice ruled that the preponderance of evidence was in favor of the defendant and he was released. How often we are influenced in our judgment by evidence of the same kind.

In the beginning of the antitoxin treatment the doses, measured in antitoxin units, were far too small. The volume was large and we were not overconfident that the larger doses or the repetition of the treatment was free from danger. We have seen a gradual perfection of the serum, a much more concentrated solution, special containers and a more nearly standardized dose.

There was something disconcerting in the occasional reports of alarming prostration following the use of the serum, which we now recognize as the anaphylactic reaction.

This is better understood and we are able, to a certain extent, to guard against this danger.

Although much has been accomplished, we are far from the goal of our ambitions. The per cent of recoveries is encouraging but it is much too low. In Oklahoma the mortality rate is probably much lower than is shown by the statistics. It is difficult to obtain full morbidity reports outside the larger cities. Since in each case the undertaker must furnish a certificate of the cause of death, all deaths are reported. These causes would tend to make the mortality rate appear higher than it really is.

Statistics show that the incidence of diphtheria has not been lowered in the past twenty-five years. Possibly the figures in this case do not tell all the facts. Twenty-five years ago there were many more unreported cases. We certainly report many which our predecessors would have overlooked. However, the incidence is too high and should be materially reduced. To this end we must have a more rigid inspection of the cases of tonsillitis and simple sore throat. Often these are treated with domestic remedies until the presence of diphtheria is tragically demonstrated. I have seen diphtheritic paralysis follow in those who had been treated by the physician for tonsillitis. These are the centers and wide distributors of infection.

From the observance of this disease in past epidemics, I have reached the conclusion that the diphtheria bacillus does not readily attack the healthy mucous membrane. With a wide spread highly contagious disease of the tonsils or pharynx in a community, diphtheria finds a favorable field for development. When diphtheria is prevalent, those suffering from sore throat should be more generally segregated, not simply because they may have a latent diphtheria, but because they are much more easily infected if they chance to come in contact with it. The prophylactic administration of antitoxin has saved many lives but it is not entirely satisfactory. The immunity is of too short duration and the danger of sensitization to the serum is not to be lightly considered. The toxin-antitoxin promises to be more satisfactory both in the longer duration of immunity and the absence of sensitization. The possibility of those immunized becoming carriers is of no more importance than the fact that those who have a natural immunity are frequently carriers.

If by general use of the toxin-antitoxin we are able to immunize the very young even for a few years, deaths from diphtheria will be greatly decreased, particularly those resulting from membranous croup, which is responsible for more than half the fatalities now reported. In the doubtful cases of croup, antitoxin should be given. It is too hazardous to delay until the diagnosis is made certain by symptoms of serious obstruction.

Antitoxin has worked wonders in the treatment of diphtheria. The younger members of the profession will never experience the disappointments and heart aches that we have endured in our treatment of this disease, which in times past has been "the pestilence which walketh in darkness and the destruction which wasteth at noonday."

Discussion: Dr. B. A. Hayes, Oklahoma City.

There are three points I wish to take up in discussing this paper. The first one is that the clinical diagnosis of diphtheria ought to be made easier and more certainly by the physician than it is. The one condition which resembles it most is acute follicular tonsillitis. I have often seen a solid white membrane spread over both tonsils, accompanied by fever and enlargement of the cervical glands, which showed no diphtheria bacilli at all. These membranes are usually due to streptococci or pneumococcic infection. The points of differentiation between them and true diphtheria are as follows:

1. The cervical glands are larger and more tender in comparison to the lesion in diphtheria than in tonsillitis.

2. The streptococcic membrane is less uniform in texture, is whiter in color, is much less adherent, is limited to the tonsils, is practically always bilateral, and will break off in flakes without leaving a bleeding point behind. The membrane of diphtheria is tough and adherent, and nearly always causes bleeding when it is removed. It tends to spread off the tonsil on to the surrounding pharynx.

It should be borne in mind that these points are not absolute, however, and in any

doubtful case no chances should be taken.

The second point I present is a successful laboratory technique for identifying the diphtheria bacilli. The method, taught by Dr. Cumnor, of Cleveland, Ohio, is as follows:

Make an emulsion of the bacilli with water on a **cover glass.** Dry slowly and fix in flame. Stain with Loeffler's alkaline Methylene Blue for one to three minutes. Pour off the stain and decolorize with one half per cent acetic acid by inverting the cover glass on a drop of the solution placed on a slide. Examine under oil immersion. The bacilli will appear as large light-blue rods, containing dark-blue polar bodies or cross-bars, depending on the age of colutures.

By this technique the bacilli appear almost as large as subtilis, and are very easy to identify.

The third point is the matter of treatment. I am in favor of large doses of antitoxin. In the Contagious division of Cleveland City Hospital, we used to give 30,000 to 40,000 units intravenously to severe adult cases. Mild cases received 15,000 units. In children mild cases received 3000 to 10,000 units and severe ones 10,000 to 20,000—all intravenously. The intravenous method gets results very rapidly, but is accompanied by severe chills and fever during the first six or eight hours after administration. Frequently the temperature goes up to 107 degrees. Then it drops and the patient is well. He should be kept flat of his back for five or six days afterward, however, in order to prevent a sudden death from vagus or phrenic neuritis. I think that intravenous injections should be used very cautiously in the home because of the severe reaction which follows; but in bad or delayed cases it is best, because it immediately neutralizes the toxic content of the blood. In mild or early cases there is no such hurry, and subcutaneous injection is safer both for the doctor and the patient.

In children too small to find the veins of the arms, the antitoxin may be given in the external jugular vein with ease. When the child cries the vein distends, especially when slight pressure is made upon it at the base of the neck.

Dr. D. F. Stough, Geary, Okla.

Can the chicken be a host and carrier of the diphtheria germ? The reason I ask is because of the experience I had a few months ago. A farmer living a few miles out of Geary, had sickness among his chickens and lost not less than thirty of them. They apparently had a cold in the head, and a very offensive odor about the head. One of his children developed diphtheria. All were given antitoxine. About six weeks later another child, one that had been given an immunizing dose of antitoxin, came down with diphtheria. A few days before he had carried some sick chickens from one pen to another. I am sorry that I did not myself examine the chickens and have the head of one sent in to the state laboratory for examination. I reported my suspicions to the State Board of Health, but they were unable to give me a positive answer to my question. It is my belief that the chickens had Diphtheria and were the source of infection for the children.

Dr. John A. Hatchett, Oklahoma City.

Dr. Fisk has contributed many good papers to this association, including the one under discussion. We kindly remember him as one who always carried a message in his paper at once interesting, constructive and practical. He speaks of the days of long ago when diphtheria was diagnosed without laboratory aid and when antitoxin was unknown. Then the membrane in the throat was studied with a keen perception as the distinctive lesion of a grave disease with a high mortality and one involving an unusual professional responsibility. The findings in the throat, the coincident cervical angina in association with the constitutional symptoms were enough nearly always, to make the diagnosis clear, especially if in the midst of an epidemic. Indeed, so constant was a correct diagnosis made that many doctors came to regard their diagnosis infallible. Further observation, however, developed the fact that diphtheria might lurk in the background of a clinical picture of follicular tonsillitis. I fell into this trap to my humiliation. The mother was unusually anxious regarding her boy when I assured her he had tonsillitis and not diphtheria. Before the first boy's death in three or four days, a brother was taken with a violent case of laryngeal diphtheria and died quickly. After his death the trachea was opened and a mould of exudation found reaching from the larynx to the tracheal bifercation. Had antitoxin been in use at that time, the first boy doubtless would have been saved. Large doses

promptly given and aided by intubation might have saved the second patient.

The discovery of antitoxin and its evolution as a remedy is one of the most glorious achievments of medicine. Experience has proven that it is virtually harmless and that the danger from anaphylaxis has been greatly over estimated. Dr. Fisk has materially changed his mind regarding the danger from anaphylaxis claimed in his paper written eight years ago. He rightly advocates giving antitoxin early in croup and in strongly suspicious cases and also to the very young in immunizing doses.

PROCEEDINGS OF THE OKLAHOMA CITY CLINIC ROUND TABLE—WESLEY HOSPITAL

ANGINA PECTORIS

D. D. PAULUS, M. D.,
Oklahoma City, Okla.

Patient, male age 54. Capitalist—with negative family history. Had led a strenuous life for past 15 years.

Usual diseases of childhood with good recoveries. Typhoid ten years ago. Good recovery. No other illness.

Present Complaint. Started six months ago with "pounding and fluttering" of heart, especially noticeable when patient exerted himself more than usual. Upon retiring at night would notice the above condition just before he fell asleep. About four weeks ago first noticed pain under sternum. This was associated with dyspnoe upon exertion, aggravated by a full meal or by bloating of stomach. Pain has been very severe lately—out of all proportion to degree of exertion.

Physical Examination. Pupils equal and regular. Both react promptly to light and accommodation. Throat negative. Several filled teeth. Glandular system negative. Pulse fairly strong, regular. Heart, apex best fifth interspace outside of nipple line. Second aortic snappy: No murmurs, no extra systole. Abdomen—liver and spleen not palpable. Reflexes normal. Blood pressure 168-100. Pulse 68.

Laboratory. Urine 1021 alkaline, albumin, sugar and indican negative. No casts, blood or pus.

Fluoroscopic shows no widening of root or arch of aorta. Left sided preponderance.

Wassermann negative.

Patient was advised as to condition. Complete rest, salt free and practically meat free diet. Digitalis in small amounts. Nitroglycerine gr. 1-100 dissolved under tongue when spells are very severe. Chloral hydrate gr. Vt. i. d.

One month later patient returned stating that he had not been getting along very well. Has spells of pains, radiating down both right and left arm, especially right and left wrists, also over heart. Pain also radiates to both sides of neck and cheeks. Patient has been trying to conduct business, having conferences on business matters in his home. Pain has been very severe and almost continuous for past three days. Nitroglycerine gr. 1-100 as many as six to eight doses a day, with several hypos of morphine sulphate gr. 1-4 did not relieve condition. At times suffering almost unbearable.

Re-examination at this time shows pulse very irregular. B. P. 185-100.

Patient put to bed and complete mental and physical rest enforced. Bromides in fairly large doses were given with chloral hydrate. Only liquid food. Digifoline one tablet four times daily. In all, about 80 gr. of bromides were given during the day. The next morning the patient stated he had rested well the latter part of the night. Was comparatively free from pain. Heart still slightly irregular. B. P. 160-100. At end of third day in bed his blood pressure was 130-80 and on fifth day 132-70. Some extra systoles were still present.

One month later the patient is doing well but has had several mild attacks. It will be interesting to note if the angina will disappear when auricullar fibrillation set in or when cardiac failure becomes established should the patient survive long enough for this condition to occur.

The interesting features of this case are, the severity of the pain in the wrists during the attack and also the radiation of pain along the neck to the cheeks on either side. The failure of nitroglycerine to relieve the attack is not uncommon. The effect of sedatives like bromides, chloral hydrate and complete rest in bed on reduction of blood pressure is a rather frequent clinical observation. One must not forget, however, that the pressure will go up again when he begins to stir around.

PLASTIC REPAIR OF SECTIONED TENDO ACHILLES, OLD.

MARVIN E. STOUT, M. D.
Oklahoma City, Oklahoma

In June 1922, while working in the harvest, patient stepped on the handle of a draw knife which flew up and severed his left tendo Achilles, just above its insertion in the os calcis. The skin wound was very small and caused but little pain. It was not considered necessary to consult a physician and the patient began getting around after the second day by the aid of a cane. The wound healed in a few days, but he noticed that he did not have good use of the foot, in that he could not extend it, and he had no power to raise his weight on his toes. That there was no spring in his foot and he expressed himself as "walking like a duck."

Soon he noticed a depression or a gap in the tendon at the point of injury which gradually widened as time went on, until, when he consulted the clinic, there was a separation of about three inches due to contraction of the muscles which was impossible to overcome.

On October 12, 1922, a long curved incision was made, freely exposing the os calcis at the point of insertion, and the retracted end of the tendon. A good substantial section was taken from the posterior surface of the retracted tendon and turned down and sutured to the remaining fibers, and the periostium of the os calcis at the point of insertion.

The wound was closed in the usual way and a plaster cast applied with the foot in extension to free the tendon from any tension. The cast was not removed for eight weeks when the wound was perfectly healed, and the union of the tendon appeared firm. He was instructed to begin using the foot slightly, and gradually to bring it into full use, and the function of the tendon has continued to strengthen until he is now walking without a limp and is able to bring his entire weight upon the toes of his foot.

Abstracts, Observations from Current Medical Literature

CARBON TETRACHLORID IN THE TREATMENT OF HOOK-WORM DISEASE.

In view of the interesting results obtained by Hall, the Bureau of Ankylostomiasis of the Medical Department of the Colony of Fiji undertook to study the value of carbon tetrachlorid in the treatment of hookworm disease in human beings, and, during the period from Feb. 14 to May 30, 1922, administered the drug to more than 20,000 persons, the percentage of drug efficiency having first been established. The 20,000 treated persons were composed of 1,000 Europeans, 6,500 Indians and 13,000 Fijians. Original examination with the microscope revealed an infestation rate of 89 per cent. among the Fijians and of 93 per cent. among the Indians. To date, reexamination has been made of 823 persons in this district, of whome seventy-two were found to be still infested. In the opinion of S. M. Lambert, Suva, Fiji (Journal A. M. A., Dec. 16, 1922), this indicates that the single treatment method has reduced what was originally a 100 per cent. infestation to an infestation of less than 9 per cent. The cost of each treatment was found to be fourpence halfpenny. The dose given was 0.2 c. c. (3 minims) to the year of age, up to the age of 15, when the adult dose of from 3 to 4 c. c. (from 45 to 60 minims) is reached. The maximum dose depends on the size of the adult. Carbon tetrachlorid, in the dosage given, is not so effective a vermifuge as oil of chenopodium for removing Ascaris, only 40 per cent. of them being removed by the Fijian tests. The drug occasionally removes Trichocephalus dispar in small numbers, but it does not cure the disease. It seems, however, to remove Oxyuris vermicularis in large numbers. By no means the least valuable feature of carbon tetrachlorid treatment is the fact that, with it, it is easy to secure individual and public cooperation, as there is much less opposition to a campaign in which this drug is used than to one employing chenopodium or thymol. Rarely is there a refusal to take treatment. The dispensary in Suva, in response to public demand for treatment, opened two months before it had been planned to begin work in that district. In this preliminary period, 2,000 persons were treated at their own solicitation.

SCARLET FEVER EPIDEMIC IN AN AGRICULTURAL SCHOOL

H. S. Diehl and W. P. Shepard, Minneapolis (Journal A. M. A., Dec. 16, 1922), report an epidemic of fifty-nine cases of scarlet fever occurring among the students of the Agricultural School of the University of Minnesota from January 25 ot March 26. Of the patients, 93.3 per cent. were boys, and 6.7 per cent. girls. Of the patients, 55.9 per cent. lived in rural communities; 33.9 per cent. in towns of less than 5,000 inhabitants; and 10.2 per cent. in cities of more than 5,000 inhabitants. New cases developed at the rate of from one in three days to four in one day during the epidemic. By means of daily throat inspection with isolation of all suspicious cases and contacts, the epidemic was kept under partial control; but it was not until all students with even slightly reddened throats were isolated that new cases failed to develop. From the study of the epidemic, it seems probable that students showing no symptoms other than a moderately reddened throat were responsible for the transmission of much of the infection. A review of the clinical notes in the cases showed a great diversity of symptoms and complications. The mortality rate was zero.

EXERCISE TOLERANCE IN HEART DISEASE

In persons recovering from protracted infectious diseases, the time to permit any physical activity and the amount of increase advisable from day to day can be intelligently determined only by an exercise tolerance test. If persons in whom heart disease has been diagnosed, who show nothing abnormal except a systolic murmur over the heart, tolerate vigorous exercise, it does much to dissipate the apprehension they may feel about taking exercise and strengthens the physician's conviction that he is dealing with a normal heart. This, perhaps, will make unnecessary the advice so often and so solemnly given these patients to be cautious about physical activity. Persons with valvular disease show the greatest variation in their exercise tolerance whatever the exercise may be, swinging dumb-bells, climbing stairs, walking, etc. Only by determining their exercise tolerance, says Theodore B. Barringer, Jr., New York (Journal A. M. A., Dec. 30, 1922), can the amount of physical activity most suitable for them be prescribed. There are certain patients with advanced mitral stenosis who have a very small exercise tolerance. These patients have to be extremely careful about their physical activities. They improve but slightly, or not at all, on graduated exercise, and they have to take digitalis almost continuously. Patients with aortic valve disease stand physical activity, as a rule, better than those with mitral stenosis. When they show a persistently low exercise tolerance, the duration of life is generally short. Barringer believes that as time goes on the validity of the exercise tolerance test for determining the condition of the heart's functional capacity will become generally recognized, and our knowledge of heart disease will be much enriched through the facts acquired by this comparatively new method of cardiac diagnosis.

INTRAPERITONEAL INSERTION OF BURIED CAPILLARY GLASS TUBES OF RADIUM EMANATION

The intraperitoneal insertion of buried capillary glass tubes of radium emanation has been resorted to by Isaac Levin, New York (Journal A. M. A., Dec. 16, 1922), extensively in intraperitoneal tumors of the gastro-intestinal tract, the uterus, the ovaries and in retroperitoneal tumors. An exploratory laparotomy is performed. When it is found that the tumor itself is inoperable, i. e., cannot be completely removed surgically, then the emanation tubes are inserted into the tumor, and this is followed by the necessary palliative surgical procedures. The laparotomy incision is immediately sutured. The method produces no general deleterious effect on the organism, and at the same time in every instance causes a shrinkage of the tumor mass. The method seems, therefor, to be of great promise, and should be tested by all surgeons and radiotherpeutists who are in a position to obtain the capillary tubes of radium emanation.

TUBERCULOSIS OF THE TESTIS IN A CHILD

Joseph S. Eisenstaedt, Chicago (Journal A. M. A., Dec. 16, 1922), records the history of a child, aged 3 years, who had a diffuse productive tuberculosis of the testis. Microscopic examination revealed the fact that the tuberculous process was limited to the testis. This is just the opposite from the condition found in the adult.

ULCER OF THE STOMACH AND DUODENUM

Dudley Roberts, New York (Journal A. M. A., Dec. 30, 1922), believes that the frequency of peptic ulcer has been greatly underestimated, and the relative danger of the lesion greatly exaggerated, because only the more severe complicated cases have come under observation or have been recognized through clinical study. Until more definite information is at hand as to the cause of the lesion and the reasons for its stubborn persistence, a specific cure and a satisfactory routine for the handling of these cases can hardly be worked out. Meanwhile, treatment must be individualized on the basis of the site and the character of the lesion as shown by roentgen-ray study; the subsequently demonstrated change in the lesion; the amount of disability; and the presence of complication, such as hemorrhage, perforation and stenosis.

MANAGEMENT OF HEAD INJURIES WITH REAL OR POTENTIAL BRAIN DAMAGE

Charles E. Dowman, Atlanta, Ga. (Journal A. M. A., Dec. 30, 1922), urges that all head injuries should be carefully studied and the type of injury properly estimated before the institution of any particular treatment. No treatment is of avail in those cases of massive brain injury presenting evidence of rapid exhaustion of the medullary centers. The treatment of middle meningeal hemorrhage can be greatly facilitated by ligating the external carotid artery. The technic advised by Cushing in the treatment of war wounds of the skull and brain should be used in the treatment of those cases of brain injury in which there is localized brain contusion. Subtemporal decompression is still the treatment of choice in cases of brain injury when there is evidence of gross brain laceration, and the patients are yet well within the so-called period of medullary compensation. Saturated magnesium sulphate solution by mouth will prevent the occurrence of increased intracranial pressure due to fluid accumulation and thereby prevent the necessity of late operation in many cases of brain injury in which immediate operative intervention does not seem to be indicated. Saturated solution of sodium chlorid intravenously is of inestimable value in relieving acute increased intracranial pressure due to fluid accumulation occurring several days after head injuries, with definite brain injury.

NAVY ADOPTS NEOARSPHENAMINE

The following letter of Rear Admiral E. R. Stitt, Medical Corps, United States Navy, was approved on August 17, 1922, by the Bureau of Medicine and Surgery, in charge of Rear Admiral W. C. Braisted, Washington, D. C., and published for the information of the medical officers of the United States Naval Service, in the U. S. Naval Medical Bulletin, October, 1922.

To the Bureau of Medicine and Surgery:

"Subject: Recommendation that neoarsphenamine be substituted for arsphenamine in connection with use on board ships and at certain stations of the Navy.

"1. I would recommend that the use of arsphenamine be discontinued on board ships of the Navy and in its place to substitute neoarsphenamine. This same recommendation would apply to stations and smaller hospitals.

"2. In the larger hospitals where facilities for the administration of arsphenamine are satisfactory, the choice between arsphenamine and neoarsphenamine should be left to the discretion of the commanding officer.

"3. This recommendation is made for the following reasons:

(a) In discussing fully this matter with the director of the hygienic laboratory, he is of the opinion that most of the accidents attending the use of arsphenamine have been connected with errors in technic. In view of the simplicity of technic when using neoarsphenamine, many untoward results would be eliminated.

(b) In the clinic of the Brady Institute, neoarsphenamine is used exclusively, and Doctor Young and his associates are unable to note any lessened therapeutic efficiency with this drug than when arsphenamine is used."

ANNOUNCEMENT

The Seventh Annual Clinical Session of the American Congress on Internal Medicine will be held in the amphitheatres, wards and laboratories of the various institutions concerned with medical teaching, at Philadelphia, Pa., beginning Monday, April 2, 1923.

Practitioners and laboratory workers interested in the progress of scientific, clinical and research medicine are invited to take advantage of the opportunities afforded by this session.

Address inquiries to the Secretary-General.

Sydney R. Miller, President,
Baltimore, Md.

Frank Smithies, Sec'y.-Gen'l.,
1002 N. Dearborn Street,
Chicago, Ill.

DR. ALBERT EWING DAVENPORT
State Commissioner of Health For Oklahoma

THE JOURNAL
OF THE
Oklahoma State Medical Association

Issued Monthly at Muskogee, Oklahoma, under direction of the Council

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The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL

IN APPRECIATION OF THE COUNTY SECRETARY.

This means is taken to gratefully acknowledge the prompt cooperation on the part of our county secretaries who by their energy placed upon the 1923 membership rolls nearly 1300 names during the month of January. This number exceeds any before recorded for the same period and taking into consideration the situation in many parts of the State it is to be considered an achievment of no small proportions.

With the exception of those counties which have never had more than a perfunctory organization, no meetings except on rare occasions, requiring constant reminder of the importance of the month of January to the individual member, the remainder responded with alacrity. Several start the year with an absolutely new slate, carrying all old members with their new accretions. That this is appreciated is stating the matter mildly. The office of State Secretary is always overworked during the first few months of the year, the trials and griefs are many, so this is written to say WE THANK YOU.

OUR ANNUAL MEETING—TULSA, MAY 15, 16, 17.

Dr. Fred Y. Cronk, Tulsa, has been appointed General Chairman for the Tulsa meeting, and shortly, sub-chairmen will be named and announced.

It is to be hoped that every physician contemplating attendance at this meeting will not neglect the important matter of making his hotel reservations at an early date, for Tulsa is a City full of people, often so crowded that getting any sort of accomodations is next to impossible.

The necessity for everyone proposing to read a paper at this session making announcement of his subject and early preparation of his matter that it may have inclusion in the May issue cannot be too strongly urged. The program of the meeting will be published, if possible, in the May issue. To have that issue out in time for circulation demands that matter for its pages be prepared and in the hands of the various Section Chairman or in the JOURNAL office by April 15, if that is possible. Opportunity for alteration, additions and corrections will be given everyone up to the last possible moment. However, much last minute haste and waste incident to our Annual Meeting may be avoided by an early clearing of professional decks for action.

THE OKLAHOMA COMPENSATION LAW AND THE PHYSICIAN.

Rumors are rife that there will be attempts made during the session of the Legislature to amend the Workmen's Compensation Law. Unofficially, it is said that the measures may seek to give more to the injured employe, but, at least less or no more to the physician attending him. The suggestion that it was rather rough on the physician to tie him to a serious, long drawn-out surgical case, yet limit the time

for which he was to receive remuneration for his services as well as haggle over the amount, did not seem to create any particular sympathy for the physician. Perhaps that is because he has and controls few votes, often not even using his own intelligently for the benefit of the profession from which he derives a livelihood. It is well to keep in mind, too, that heretofore practically every law enacted on this score has emanated from sources almost wholly callous to the possibilities of justice or injustice contained in the enactment so far as the physician was concerned. While we are reviewing the past experiences it is also well to recall that "Eternal vigilance is the price of liberty" and that the practical application of this warning should induce as many physicians as possible to write their representatives for information, especially asking just where the physician tied up to a Compensation case will be should the law be changed. We need not ask that favoritism be shown us, be we should ask that a fair remuneration be given the man who does the work.

ABOUT BREEDING.

It was pointed out by Carl Pearson several years ago that one-half of the births in England were being produced by one fourth of the population, and that this extra-prolific one-fourth was the lowest fourth judged by intellectual and social standards. As a matter of fact, most civilized nations today are recruiting their populations from the bottom layers of society. They are not having their peoples well-bred. While their births are selective they are based on the worst possible selection. It may be urged that this makes little difference in countries where men are born free and equal and have equal opportunities for development. There are ample reasons for believing, however, that success in the multifarious affairs of life indicates superior mental and physical capacity. It is a well known fact that the birth rate of the well to do and intelligencia of all civilized countries has been steadily shrinking for the past half century, while those groups content to follow in the rear, the less energetic and ambitious, the unfit mentally and physically, the camp followers, the ne'er-do-wells, breed to their hearts' content. The biological law that progress in the evolutionary scale is made at the expense of fecundity is thus stated by Herbert Spencer:—"The fertility of any species varies inversely with the development of the individuals of that species." There seems to be ground for believing that this law is as applicable to the individual as to the species, and that the higher his intellectual development the less becomes his power of procreation. Indeed, Gide, in his discussion of Malthusianism, expresses the hope that as the race progresses mentally and morally its fecundity will slacken. This will never effect the lower strata of society, however, and only the high death rate induced by the conditions under which they live and multiply saves civilization from being engulfed by the seething precipitate from below. These are the people who are multiplying and replenishing the earth today. Now what do we see in these United States of America? The graduates of Harvard, our most famous school of learning, barely perpetuating themselves, while 1193 graduates of Bryn Mawr in twenty-five years produced 263 girls all told. One in ten of our young men, as determined by the psychological tests for the draft, was so below par mentally that he was unsafe to send to France, and was left to do routine menial labor at home. It is from this one-tenth that our jails, our state schools and our feeble-minded institutes are recruited; but we allow them to marry and propagate themselves, and too often without the former formality. Our sickly sentimentality forbids their sterilization, or even segregation, and even invites them to make laws for us by giving them the ballot. The Spartans, with our knowledge, would have done far better. They would at least have rendered them incapable of propogating themselves and applied Mendelian principles to human breeding. Are we less wise than the Spartans?

—S. E. Cook.

Nebraska Med. Journal, Feb. 1923.

Editorial Notes—Personal and General

Okmulgee County Medical Society at the last January meeting formed plans to have a club room and medical library. The meeting was the annual "get together" affair of the society. The viands for the occasion were provided for by Drs. W. W. Stark, W. C. Vernon and L. E. Torrance. The twenty-one physicians present heard a radio program after the meeting.

Dr. D. Long, who has been connected with the State Tuberculosis Hospital at Talihina, has returned to his old home at Duncan.

Dr. F. L. Carson, of Shawnee, spent two weeks of January in Mexico City visiting various hospitals of that country and "other places" of interest.

Dr. G. S. Baxter, of Shawnee, has just completed a handsome new residence "out on Broadway" and is now living therein.

Dr. J. E. Walker, Shawnee, has been re-appointed County Superintendent of Health for Pottawatomie County by Dr. E. A. Davenport.

Dr. G. E. Hartshorne, Tulsa, has been appointed Superintendent of Health of Tulsa county to succeed Dr. C. L. Reeder.

Dr. W. C. Sanderson, Henryetta, that city's oldest physician in point of residence has been appointed health officer for Okmulgee county.

Dr. F. L. Walton, Muskogee, has been appointed health officer for Muskogee county, succeeding Dr. F. W. Ewing.

Dr. H. E. Huston, Cherokee, has moved to Watonga.

Dr. Catherine Brydia, Ada, Pontotoc County, holds the distinction of being the first woman physician to be appointed Superintendent of health by Governor Walton.

Drs. W. Albert Cook, C. L. Reeder, R. S. Wagner and **F. C. Meyers**, Tulsa, have been appointed board of health to cooperate with the city Superintendent.

Dr. Robert S. Love, Oklahoma City, claims to be the champion victim in a contest when it comes to who lost most. Recently, while attending a banquet, thieves drilled through his locked car door and stole more than $6,000 worth of radium. Four days later they finished their operations by stealing the car.

Drs. Elizabeth Grantham and **W. S. Cherry**, Alva, entertained the members of the County Medical Association and their wives with a seven o'clock dinner January 23.

Dr. J. E. Arrington, Frederick, has been appointed health officer for Tillman County.

Dr. C. C. Richards, Marlow, is the new health officer for Stevens County.

Dr. A. E. Davenport, State Commissioner of Health, made the following announcement on assuming the duties of his office.

"On assuming my duties as State Health Commissioner of Oklahoma, it is my desire to make the Department bigger and better and more efficient than ever. To accomplish this end I earnestly wish to have the hearty cooperation of every medical man in the state, whether or not he is an acknowledged Health Officer.

"The doctors are the ones, who more than anyone else, come in contact with the sanitary and hygienic conditions over the state and I want to assure them that this office stands ready at all times to listen to any suggestion, and to give any advice in our power along these lines.

"Doctors and others will find a hearty welcome awaiting them at the office of the State Board of Health and any time when visiting Oklahoma City, we wish you to visit us."

The Board of Censors, Tulsa County, reported their findings as "guilty" in the cases of Drs. R. A. Douglas and C. M. Vaughn, charged with advertising in violation of the By-Laws. "Blood will tell" read a part of the advertisement, setting forth the virtues of Abrams Electrionics.

Dr. W. T. Mayfield, Norman, and **Miss Delores Burrell**, Santa Anna, California, were married in January.

Drs. G. W. Wiley and **J. L. Day**, of Norman, visited the New Orleans Clinics for three weeks in January.

The Tulsa County Medical Society met at the Oklahoma Hospital on Jan. 22, at the invitation of Dr. Clinton.

After routine business was disposed of, among which was answering the U. S. Public Health questionnaire in regard to the venereal situation, the meeting was turned over to the Hospital Staff.

Drs. Osborn and Diefenbach reported a case of hemophilia in the new born which resulted in death.

Dr. Butler reported a case of gall bladder infection in a one year old child which resulted in death.

Mr. Phil Davis, corporation counsel, briefly explained recent Supreme Court decisions that affect the status of the State Industrial Commission and explained that the Commission is practically powerless to award physicians their charges and enforce the payment of same. He suggested that we keep in touch with the Legislature and see that a bill is passed in which we physicians can get our compensation without recourse to the common law courts.

Dr. Lee W. Farris, of the Staff, read a paper entitled "It is the Little Things That Count in Emergency Cases." This was followed by Dr. L. H. Carlton's paper on "Acute Pancreatitis."

The hour being now late, further papers were dispensed with and welcome and delicious refreshments were served. This ended a well attended meeting which was enjoyed by everyone present.

THE CULT FAMILY

Perpetrated on the members of the Tulsa County Medical Society by Dr. T. W. Stallings, December 11, 1922.

Oh, the Cult family is a rare family; rare Birds.
For the "Osteo" has a "massage" for every ache,
No matter where's the trouble, fembro, tarso or pate,
And the "Chiro" knows the dislocated vertebrae,
From ebonized dome to coccyx, need "adjustment," they say.
And when the pedes foundation is ailing,
Then the "Chiropodist's supports" never failing.
When ills fall about you with a clatter,
Then the "Practitioner" advises, "Mind over Matter,"
Thus for every ailment under the sun
The Cults have a remedy for every one.
So, what need of the Conservative M. D.,
Where there's the Liberal with his Cult family?
Why not dispense with the "Doctor of Sense,"
And depend on the Cult and the Liberal M. D.?

STANDING COMMITTEES.

Medical Defense—Drs. L. S. Willour, Chairman, McAlester; J. H. White, P. P. Nesbitt, C. A. Thompson, Muskogee; McLain Rogers, Clinton.

Legislative—Drs. A. K. West, Majestic Bldg., Oklahoma City: J. M. Byrnm, Shawnee; McLain Rogers, Clinton; C. A. Thompson, Muskogee.

Hospitals—Drs. Fred S. Clinton, Chairman, Oklahoma Hospital, Tulsa; M. Smith, Colcord Bldg., Oklahoma City; C.A. Thompson, 508 Barnes Bldg., Muskogee.

Medical Education—Dr. Wann Langston, Chairman, University Hospital, Oklahoma City; Dr. A. B. Chase, Colcord Bldg., Oklahoma City; Dr. W. A. Fowler, Oklahoma City.

Tuberculosis, Study and Control—Drs. Leila Andrews, Chairman, Colcord Bldg., Oklahoma City; Horace T. Price, 303 Palace Bldg., Tulsa; C. W. Heitsman, 615 Barnes Bldg., Muskogee.

Health Problems in Education—Drs. J. T. Martin, Chairman, 200 W. 14th; J. R. Burdick, Oklahoma City, Okla.; A. S. Risser, Blackwell; Edw. F. Davis, 343 American National Bldg., Oklahoma City.

Cancer, Study and Control—Drs. LeRoy Long, Chairman, Colcord Bldg., Oklahoma City; E. S. Lain, Patterson Bldg., Oklahoma City; Gayfree Ellison, State University, Norman; McLain Rogers, Clinton.

Venereal Disease Control—Drs. W. J. Wallace, Chairman 830 American National Bldg., Oklahoma City; Ross Grosshart Tulsa; J. H. Hayes, Enid.

Vision, Conservation—Drs. W. Albert Cook, Chairman Palace Bldg., Tulsa; D. D. McHenry, Colcord Bldg., Oklahoma City; John R. Walker, Enid.

Committee on Benefactions—Drs. L. J. Moorman, Chairman, 1st Nat. Bldg., Oklahoma City; J. H. White, Muskogee; R. V. Smith, Daniel Bldg., Tulsa; L. A. Turley, Norman; McLain Rogers, Clinton.

COUNCILORS AND THEIR COUNTIES.

District No. 1. Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Grant, Garfield, Noble and Kay. A. S. Risser, Blackwell. (Term expires 1924.)

District No. 2. Dewey, Roger Mills, Custer, Beckham, Washita, Greer, Kiowa, Harmon, Jackson and Tillman. L. A. Mitchell, Frederick. (Term expires 1923.)

District No. 3. Blaine, Kingfisher, Canadian, Logan, Payne, Lincoln, Oklahoma, Cleveland, Pottawatomie, Seminole and McClain. Dr. Walter Bradford, Shawnee. (Term expires 1925.)

District No. 4. Caddo, Grady, Comanche, Cotton, Stephens, Jeffereson, Garvin, Murray, Carter, and Love. J. T. Slover, Sulphur. (Term expires 1923.)

District No. 5. Pontotoc, Coal, Johnston, Atoka, Marshall, Bryan, Choctaw, Pushmataha and McCurtain. J. L. Austin, Durant. (Term expires 1925.)

District No. 6. Okfuskee, Hughes, Pittsburg, Latimer, LeFlore, Haskell and Sequoyah. L. S. Willour, McAlester. (Term expires 1924.)

District No. 7. Pawnee, Osage, Wahsington, Tulsa, Creek, Nowata and Rogers. Chas. H. Ball, Tulsa. (Term expires 1923.)

District No. 8. Craig, Ottawa, Delaware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee and McIntosh. P. P. Nesbitt, Surety Bldg., Muskogee. (Term expires 1925.)

OFFICERS OKLAHOMA STATE MEDICAL ASSOCIATION
1922 - 1923

President, 1922-1923, Dr. McLain Rogers, Clinton.
President-Elect, Dr. Ralph V. Smith, Daniel Bldg., Tulsa.
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Third Vice-President, E. B. Dunlap, Lawton.
Secretary-Treasurer-Editor, Dr. Claude Thompson, 508 Barnes Bldg., Muskogee, Okla.

Associate Editor, Councillor Representative, Dr. P. P. Nesbitt, 710 Surety Bldg., Muskogee.
Meeting Place, Tulsa, May 15-16-17, 1923.
Delegates to the A. M. A.: Dr. W. Albert Cook, Palace Bldg., Tulsa (1923-1924); Dr. J. M. Byrum, Shawnee (1922-1923).

STATE BOARD OF MEDICAL EXAMINERS.

W. E. Sanderson, Altus; W. T. Ray, Gould; O. N. Windle, Sayre; J. E. Farber, Cordell; D. W. Miller, Blackwell; J. M. Byrum, Shawnee, Secretary; J. E. Emanuel, Chickasha.

Reciprocal relations have been established with Missouri, Colorado, New Jersey, California, on basis of examination only. Arkansas, Georgia, Indiana, Iowa, Kansas, Kentucky, Michigan, Mississippi, Nebraska, Nevada, New Mexico, North Carolina, Ohio, Tennessee, Texas, Vermont, Virginia, Washington, Wisconsin, West Virginia, on basis of a diploma and a license without examination in case the diploma and the license were issued prior to June 12, 1908.

Meetings held on first Tuesday of January, April, July and October, Oklahoma City. Do not address communications concerning State Board examinations, reciprocity, etc., to the Journal or to Dr. C. A. Thompson, Secretary, but to Dr. J. M. Byrum, Shawnee, Secretary of the Board.

CHAIRMEN OF SCIENTIFIC SECTIONS:

General Medicine, Neurology, Pathology and Bacteriology: Dr. H. T. Ballantine, Muskogee.

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Eye, Ear, Nose and Throat: Dr. W. T. Salmon, Oklahoma City; Dr. W. E. Dixon, Secretary, Oklahoma City.

Obstetrics and Pediatrics: Dr. T. C. Sanders, Shawnee, Chairman; Dr. George R. Osborne, 302 Daniels Building, Tulsa, Secretary.

CLASSIFIED ADVERTISEMENTS

Advertising under this heading is charged at the following rates: First insertion, 50c per line; subsequent insertions, 25c per line.

WANTED: Position or would form partnership with old established Eye, Ear, Nose and Throat man in town of 20,000 or over. Age 40, married, Protestant, 12 years general practice. Six months training in Eye, Ear, Nose and Throat. House Surgeon in Chicago E., E., N. & T. College. Will be available about November 15th, 1922. Give full particulars in first letter. Address, Waters, care Journal.

FOR SALE: A $7,000.00 general practice in the best town in southwest Oklahoma, for the price of office equipment, which will be about $750.00. No one but a first class man need apply. I am specializing. Address H., care Journal.

WANTED: Position as Supt. of Nurses in moderate sized hospital, by Protestant, registered graduate of Class-A school 1908, where efficient painstaking effort will be appreciated. Experienced operating-room assistant. Excellent references from last position. Charlotte E. Rennebaum, 525 North 7th St., Muskogee.

FOR SALE: $8000 practice. 2500 County seat school town, with college. $3500 residence is all that you have to buy. Rich farming country, good collections. Specializing. Address Journal A. S. N.

WANTED: Association with an established group or partnership with an established Eye, Ear, Nose and Throat man in town of 20,000 or more. Three years special training in Eye, Ear, Nose and Throat. Ten years special practice. Can give best references. Address J, care Journal.

MRS. BENJ. B. BROWN, Muskogee, offers for sale the surgical instruments and appliances of the late Dr. B. H. Brown. They consist of a McKesson (Junior) Anaesthetic appliance, Leitz microscope, sterilizers, and a fine collection of adjuncts necessary to the physician. Write Mrs. Brown, 223 N. 17th, Muskogee.

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Beaver		
Beckham		
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Pawnee		E. T. Robinson, Pawnee
Payne	P. M. Richardson, Cushing	J. Walter Hough, Cushing
Pittsburg	McClellan Wilson, McAlester	F. L. Watson
Pottawatomie	T. D. Rowland, Shawnee	T. C. Sanders, Shawnee
Pontotoc	Sam A. McKeel, Ada	Wilson H. Lane, Ada
Pushmataha	H. C. Johnson, Antlers	J. A. Burnett, Crum Creek
Rogers	Wm. P. Mills, Claremore	L. H. Henley, Claremore
Roger Mills		
Seminole		W. L. Knight, Wewoka
Sequoyah		E. P. Green, Sallisaw
Stephens	J. D. Pate, Duncan	J. W. Nieweg, Duncan
Texas	W. H. Langston, Guymon	R. B. Hayes, Guymon
Tulsa	R. W. Dunlap, Tulsa	Horace T. Price, Tulsa
Tillman	M. M. McKellar, Tulsa	J. Angus Gillis, Frederick
Wagoner		
Washita	D. W. Bennett, Sentinel	A. S. Neal, Cordell
Washington	L. D. Hudson, Dewey	Joseph C. Dunn, Bartlesville
Woods	Sylvester H. Welch, Dacoma	Oscar E. Templin, Alva
Woodward	O. A. Pierson, Woodward	C. W. Tedrowe, Woodward

*Names of officers for 1923 will be added to above as they are reported for the year.